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**Sulphur Springs Valley Electric Cooperative, Inc.**

A Touchstone Energy® Cooperative

AZ CORP. CONTROL  
DOCKET CONTROL

Tuesday, July 8, 2008

Ernst Johnson  
Director, Utilities  
Arizona Corporation Commission  
1200 W. Washington  
Phoenix, Arizona 85007

Arizona Corporation Commission

**DOCKETED**

JUL -9 2008

DOCKETED BY

**Re: Docket No. E-00000D-07-0376****SSVEC'S COMMENTS FOR THE FIFTH BIENNIAL TRANSMISSION  
ASSESSMENT**

Dear Mr. Johnson:

Sulphur Springs Valley Electric Cooperative ["SSVEC"], which provides electric service to most of Cochise County and parts of Graham and Santa Cruz counties, offers the following comments for the Arizona Corporation Commission's *Fifth Biennial Transmission Assessment* ["BTA"].

Southwest Transmission Cooperative's ["SWTC"] Ten Year Plan is not acceptable to its customer SSVEC as related to the proposed projects within the Cochise County area. SSVEC objects for the following reasons:

- 1) The location of the proposed third injection point too far north of the Sierra Vista load center;
- 2) Completing the 230kV loop in the far time horizon is not in the consumers' best interest;
- 3) Stating that SSVEC pay 100% of the over \$40 million estimated project cost to solve a transmission supply problem is unreasonable

SWTC's "N-1" transmission issues in Cochise County have been noted and discussed in various planning forums over the last several years including prior BTA proceedings, several regional transmission planning groups such as SWAT CATS-HV [Phoenix & Tucson area prior to SATS], and SATS [Pima, Pinal and Cochise county areas]. The number and magnitude of outages, which were a direct result of problems with the local transmission system, have been noted by ACC Staff and categorized as a serious issue in need of attention. In addition, Mr. David Bryan of our staff made

several comments at the first workshop in this year's BTA process on May 22 and May 23. Additional details are provided in the attached appendices.

SSVEC agrees with SWTC's assessment that solving the "N-1-1" problem is cost prohibitive at this time, but is viewed as a good long term goal. SSVEC seeks a valid solution to the existing "N-1" issues.

Currently, SWTC provides electric service to the Sierra Vista area via two radial transmission lines as shown in Figures 1 and 2 on the following pages. This area serves over 70,000 people, and has a summer peak exceeding 105MW. In October 2007, the area suffered three outages, which for most customers endured several hours, during one week due to three separate failures of SWTC's transmission facilities.

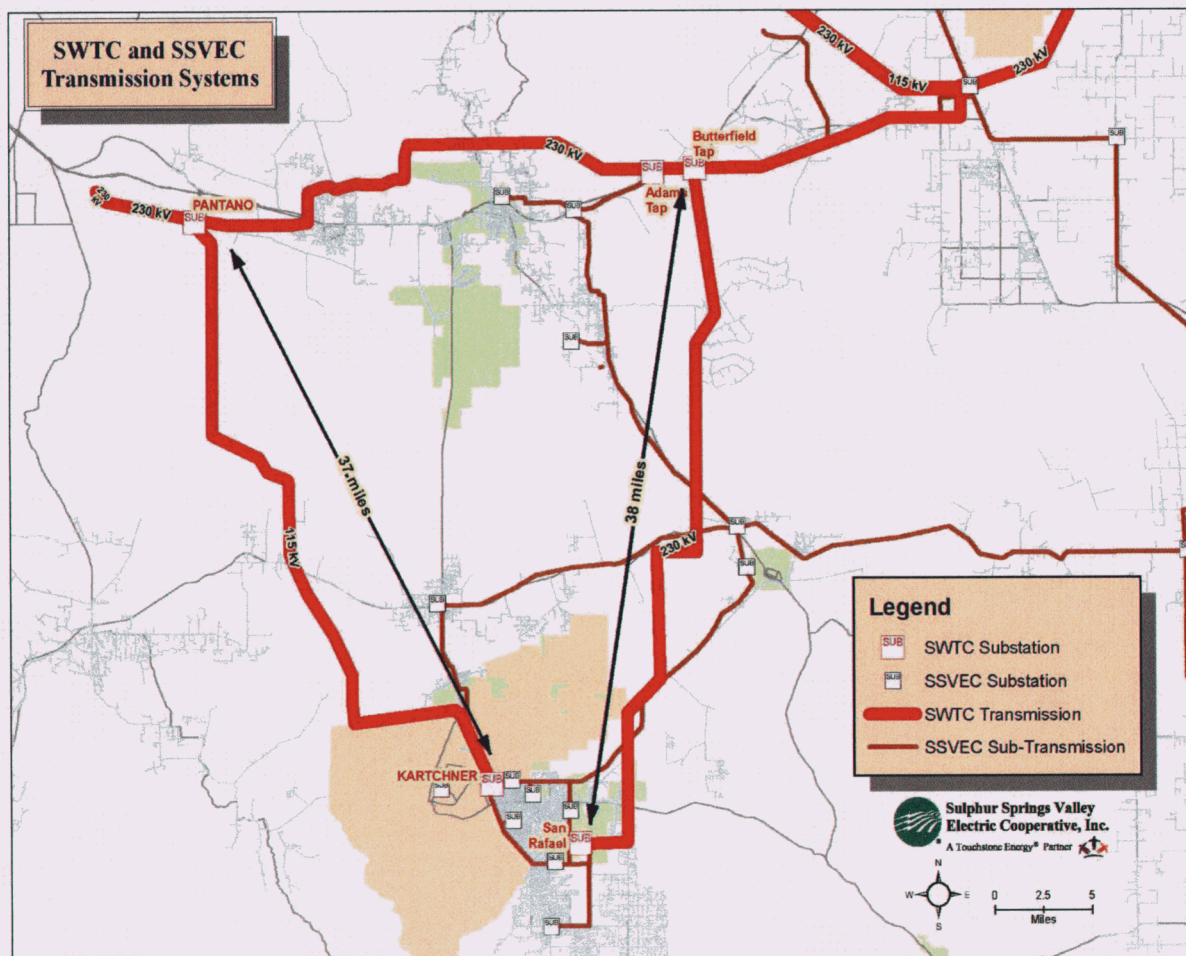


Figure 1: SWTC Transmission and SSVEC Subtransmission for the Sierra Vista Area

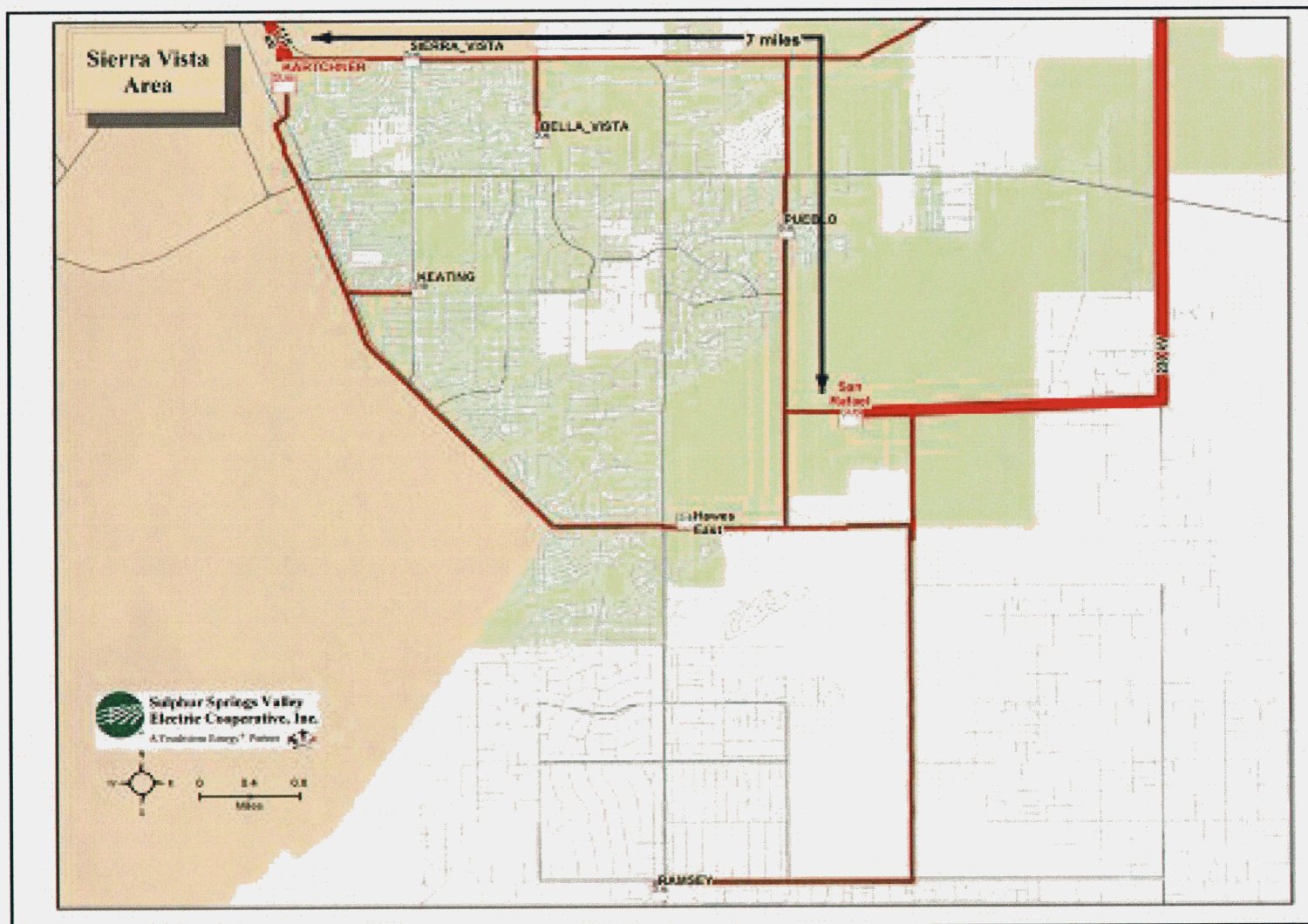


Figure 2: The Short Distance between SWTC's Delivery Points in Sierra Vista



In January 2008, SWTC filed a Ten Year Plan with the ACC which included plans for construction of a new transmission line from the Benson area south to a point near Huachuca City, which is well north of the Sierra Vista load center. This new line is illustrated in Figure 3 below.

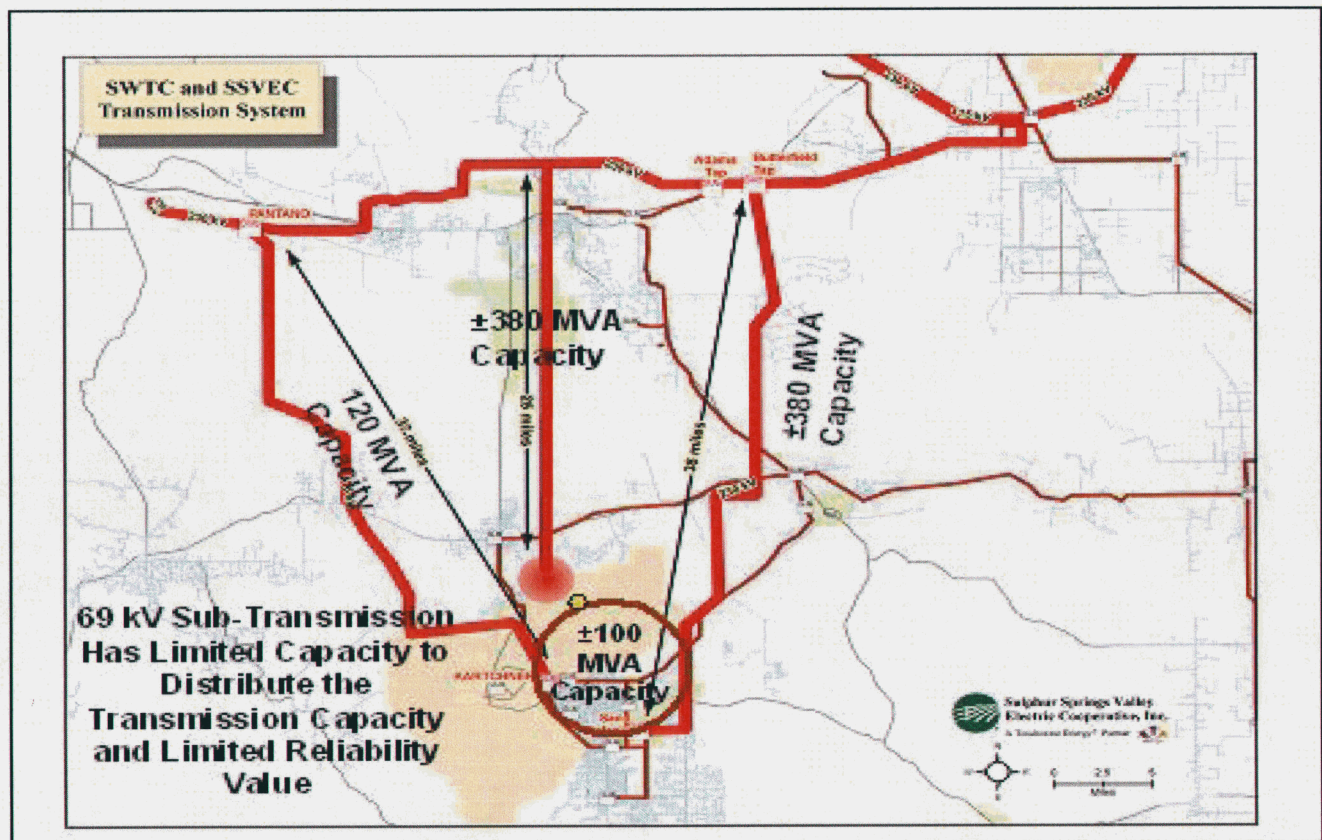


Figure 3: SWTC's 10 Year Plan Filed with ACC



In May 2008, SWTC presented its customer cooperatives with its next construction work plan for the 2011 to 2013 timeframe. In that plan, SWTC proposed that the third injection point be moved even further away from the major loads in the Sierra Vista area. Included in this plan is the need for SSVEC to construct additional 69 kV sub-transmission lines in order to connect this new delivery point to the area loads. This option is shown below in Figure 4.

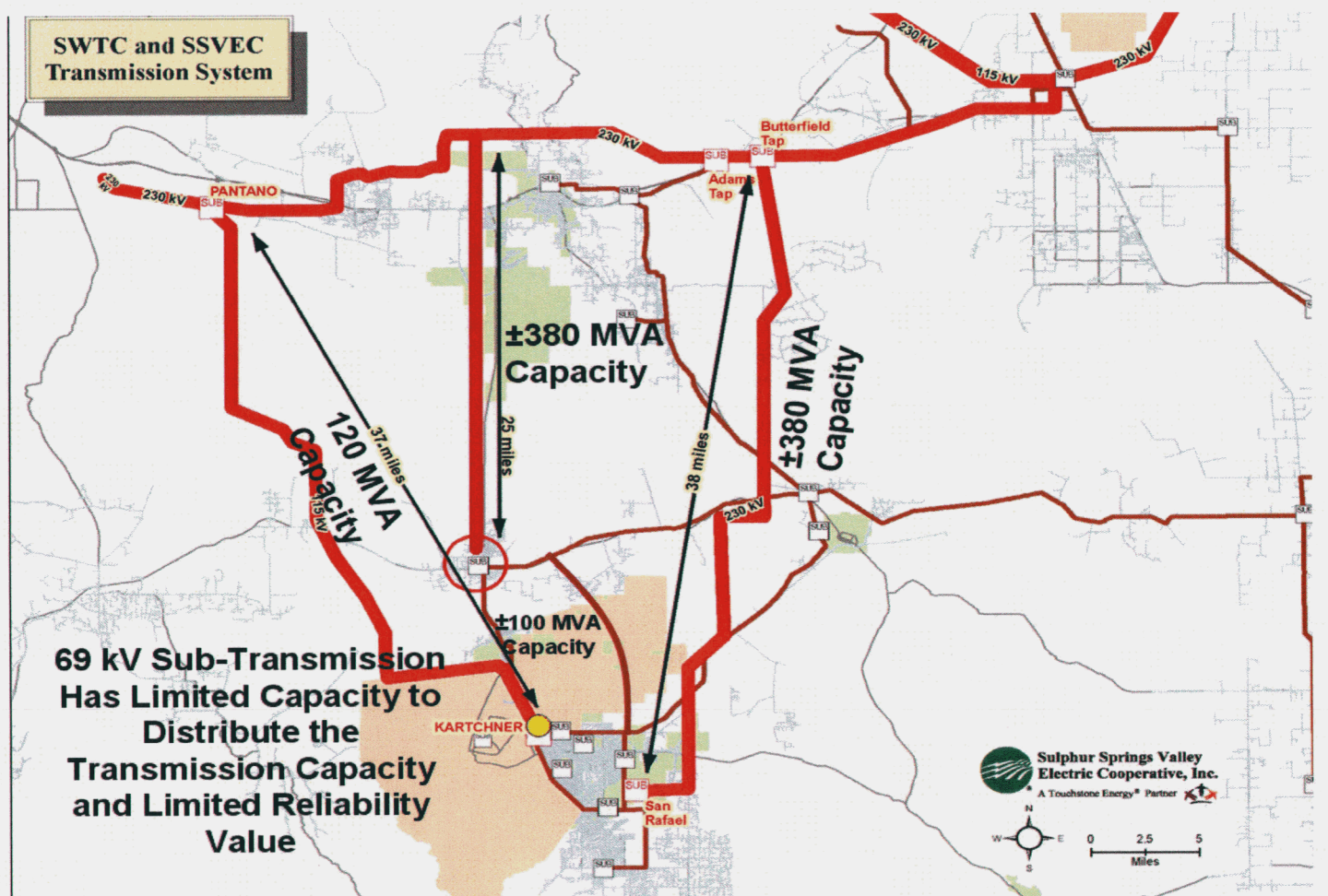


Figure 4: SWTC's 10 Year Plan as Presented to its Customer Cooperatives

It is important to note that SWTC has commissioned Burns & McDonnell to produce a "Transmission Line Routing Study – Southeast Arizona". The scope of this effort is to identify likely routes for a 230 kV line from the 230 kV line north of I-10 into the Sierra Vista area. Included in this scope is consideration for a 230 kV corridor between San Rafael and Kartchner. SSVEC understands that this 230 kV Corridor Study will address many of the issues presented in this letter. Furthermore, SSVEC intends to be directly engaged in evaluation of the preliminary and final findings of this study.

## **OBJECTION #1: THE LOCATION OF THE PROPOSED THIRD INJECTION POINT IS TOO FAR NORTH OF THE SIERRA VISTA LOAD CENTER**

Good electric utility practice calls for installation the transmission injection points in the center or very near the loads being served. SWTC's proposed plan does neither.

The load that is of concern is located in the City of Sierra Vista and south of Sierra Vista. The load peaks above 105MW during the summer. SWTC's proposed location is either 10 or 12 miles north and west of this area, depending on which version of SWTC's plan is being discussed.

It is true that extending the transmission line from the SWTC-proposed injection point to the SSVEC-proposed point at Kartchner Substation would require approval from Fort Huachuca and that the Fort has some concerns about EMF and other impacts of such a line on their facilities. However, SSVEC, SWTC and SWTC consultants have met with Fort personnel on this matter at which time Fort concerns were presented. These concerns are currently being evaluated and addressed by the SWTC consultant.

SWTC's solution is for SSVEC to build new 69 kV across the same Fort property and/or upgrade several existing 69kV sub-transmission lines and build one or more new 69kV sub-transmission line to transport the energy south into the load center in Sierra Vista. Furthermore, since almost all the energy is being transported south, there will be additional losses transporting the energy using lower voltage lines.

In SWTC's proposal, SWTC has proposed that SSVEC would have to build new 69kV sub-transmission lines from the load center (Sierra Vista) to the new transmission injection point north of the Fort. This 69 kV sub-transmission line would then serve as the link to substitute for lack of a 230 kV loop source SWTC's transmission facilities during scheduled or non-scheduled outages. SSVEC does not intend to build nor operate its sub-transmission facilities to substitute for an inadequate 230kV transmission system. SSVEC feels strongly that the better approach is for SWTC to solve its transmission issues with its own transmission facilities, preferably a 230 kV loop into the Sierra Vista area – not rely on SSVEC's 69 kV sub-transmission system.

## **OBJECTION #2: COMPLETING THE 230KV LOOP IN THE FAR TIME HORIZON IS NOT IN THE CONSUMERS' BEST INTEREST**

There are inconsistencies in SWTC's Ten Year Plan. The narrative and power flows in the January 31, 2008 SWTC filing shows SWTC proposing to add another 30-40 mile radial 230kV transmission line; yet the graphic on page 43 shows San Rafael and Kartchner tied together with 230kV. SWTC has stated its proposal is to build the radial transmission line, and then in perhaps 15 or more years complete the 230kV loop.

The Cochise County Study participants all agreed that a 230kV loop through Sierra Vista would be needed in the future. What SWTC and SSVEC could not agree upon was which part of the loop should be done first and how to finance the loop.



The City of Sierra Vista is rapidly growing to the east and to the south. Fort Huachuca Military reservation borders the City on the north and west sides – so the City can't grow that direction at all. As Figure 5 shows, there is an abundant amount of vacant land right now in the Sierra Vista area that a 230kV tie line between San Rafael and Kartchner substations that could be used. The growth in the area is towards these now vacant lands.

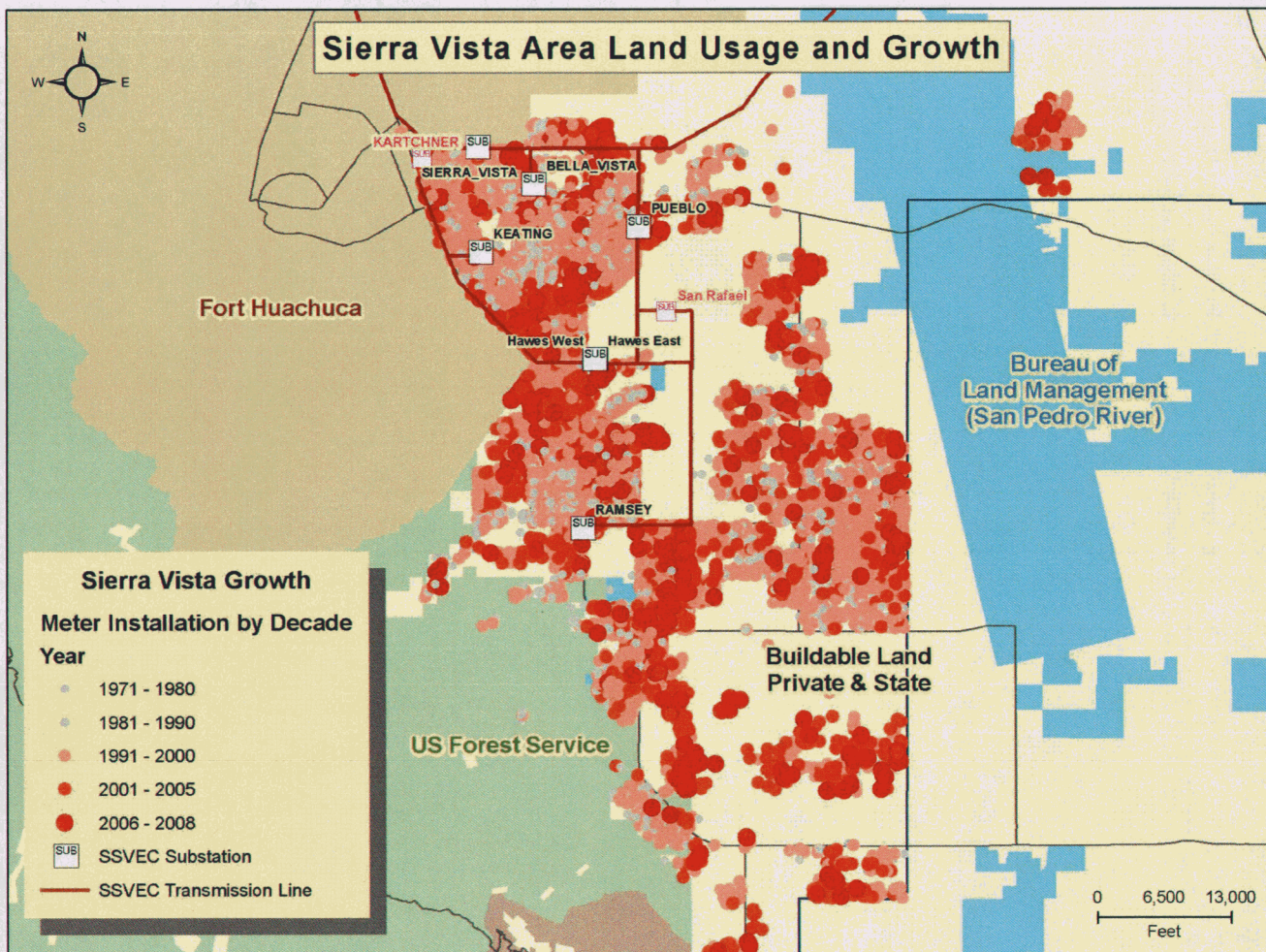


Figure 5: Growth and Land Use in the Sierra Vista Area



**OBJECTION #3: STATING THAT SSVEC PAY 100% OF THE OVER \$40MILLION ESTIMATED PROJECT COST TO SOLVE A TRANSMISSION SUPPLY PROBLEM IS UNREASONABLE**

SWTC informed SSVEC that if the system is not looped, SSVEC is responsible for 100% of the cost of the project which includes all associated transmission and substation facilities. At first glance, it may seem reasonable to assume SSVEC's customers should pay for a project specifically in their service area. However, it is important to understand that, as a majority customer of SWTC, SSVEC's customers already pay for a significant portion of SWTC's obligations and expenses through their rates. This includes paying for a significant portion of projects SWTC has constructed in the service areas of its other member cooperatives. In 2005, SSVEC's payments accounted for approximately 20% of all of SWTC's total revenue as shown in Figure 6 below.

SWTC's Total 2005 Revenue Paid By SSVEC				
	Network	Ancillary Services	ACC	Total
Class A Members	31.5%		36.0%	30.8%
Total of All SWTC	19.7%	21.1%	18.9%	19.7%

**Figure 6: SWTC's 2005 Revenue from SSVEC [sources SSVEC's SWTC bills and SWTC annual report]**

Thus, based on SWTC's cost allocation methodology, whatever projects are ultimately constructed under SWTC's Ten Year Plan that are not billed 100% to the corresponding member Cooperative, SSVEC's customers will pay for 20% of the total cost. With this understanding it is obvious that SWTC's proposal to assign the estimated \$40 million cost of this project solely to SSVEC's members is inappropriate. In addition, this financial obligation will impose a tremendous burden upon each of these individuals. With approximately 50,000 members, this project alone will cost each member well over \$1,000 (when financing costs are included).

**SSVEC'S PROPOSED SOLUTION**

SSVEC believes the appropriate steps to complete the 230kV loop are:

1. first connect the Kartchner and San Rafael substations in the City of Sierra Vista and then,
2. work northward with a new transmission line to the existing 230 kV north of I10 – thus completing the loop.

As Figure 7 shows below, much of the area that might be considered for a 230 kV corridor between San Rafael and Kartchner is currently unimproved land. In 10, 15 or more years, this unimproved land will likely be developed. Rights-of-way and easements should be acquired now while land is available.

This is in comparison of SWTC's proposal to build an approximately 37 mile long radial 230 kV line south from the Benson area to the Sierra Vista load center. Much of this land north of Sierra Vista is



expected to remain unimproved for the next 10-15 years or more. Development of Sierra Vista is expected to expand east and south from the Sierra Vista area, and to start at Benson and head south along Hwy 90.

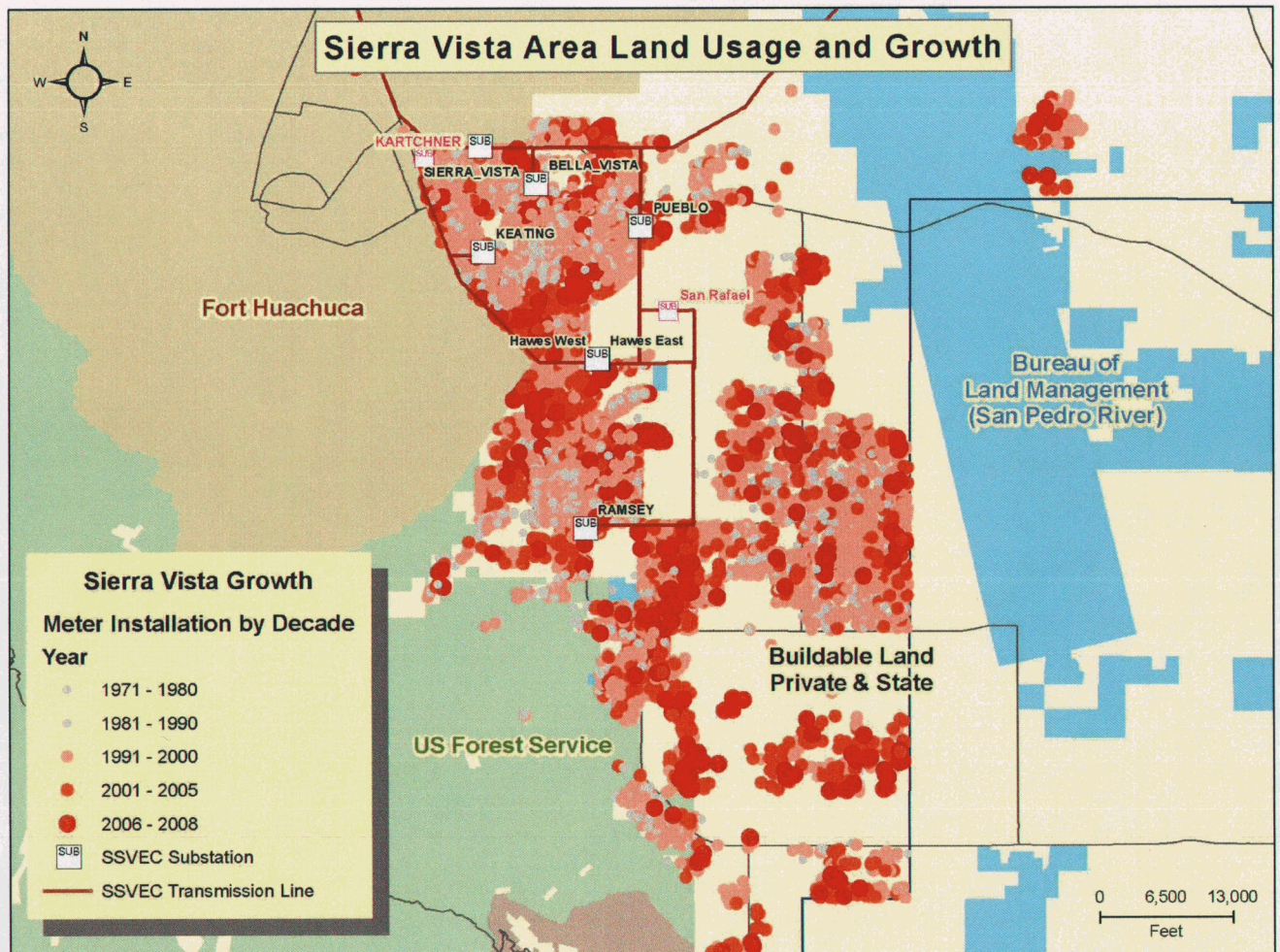


Figure 7: Growth and Land Use in the Sierra Vista Area

SSVEC suggests the following solution to SWTC's problem:

1) SWTC apply to Fort Huachuca Military Reservation for a 230/69 kV substation site adjacent to Kartchner substation.

There is vacant land large enough for a substantial substation, existing transmission and subtransmission facilities are there already, and there is no other use for the land. Several key personnel at the Fort have been amenable to this.



2) SWTC identifies and works towards a 230kV transmission corridor and line to San Rafael from Kartchner.

This is the key to implementing a 230kV loop in Sierra Vista. Right now, much of the land to be transversed is vacant or sparsely occupied. High growth and densely populated subdivisions will be going east from Sierra Vista along Highway 90 in the near and distance future. The hospital has already announced their new location in this area.

3) In conjunction with the 230kV corridor from Kartchner to San Rafael, SWTC identifies and works toward a 230kV transmission line from Kartchner to Pantano in place of or adjacent to the existing 115 kV line. This option eliminates the need to establish a new corridor through presently undisturbed areas. Unlike the existing transmission line, any circuit placed in a new SWTC proposed corridor would be highly exposed and visible for miles in every direction.

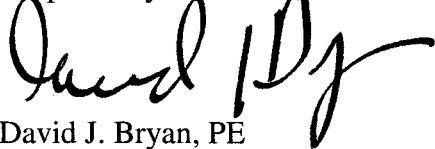
SSVEC feels strongly that the best and most likely solution is a 230 kV loop from San Rafael to Kartchner with a new 230 kV line from Kartchner to Pantano. Regardless of the exact routing, the Sierra Vista terminus should be the new 230/69kV substation near the existing Kartchner substation.

4) While this project would be SWTC's responsibility, SSVEC would pay 20 to 30% of the project's costs through SWTC rates.

## CONCLUSION

SSVEC requests ACC support in encouraging SWTC to consider a 230 kV loop solution into the Sierra Vista area as a more practical and beneficial transmission solution to the "N-1" problem than those proposed by SWTC in their Ten Year Plan as submitted on January 8<sup>th</sup>, 2008.

Respectfully submitted,



David J. Bryan, PE  
SSVEC Engineer

CC:

Prem Bahl, Utilities Division, ACC  
Laurie Woodall, KR Saline & Associates  
Jerry Smith, KR Saline & Associates  
Ken Bagley, Genesee Consulting Group  
Creden Huber, SSVEC  
Anselmo Torres, SSVEC  
Ron Orozco, SSVEC

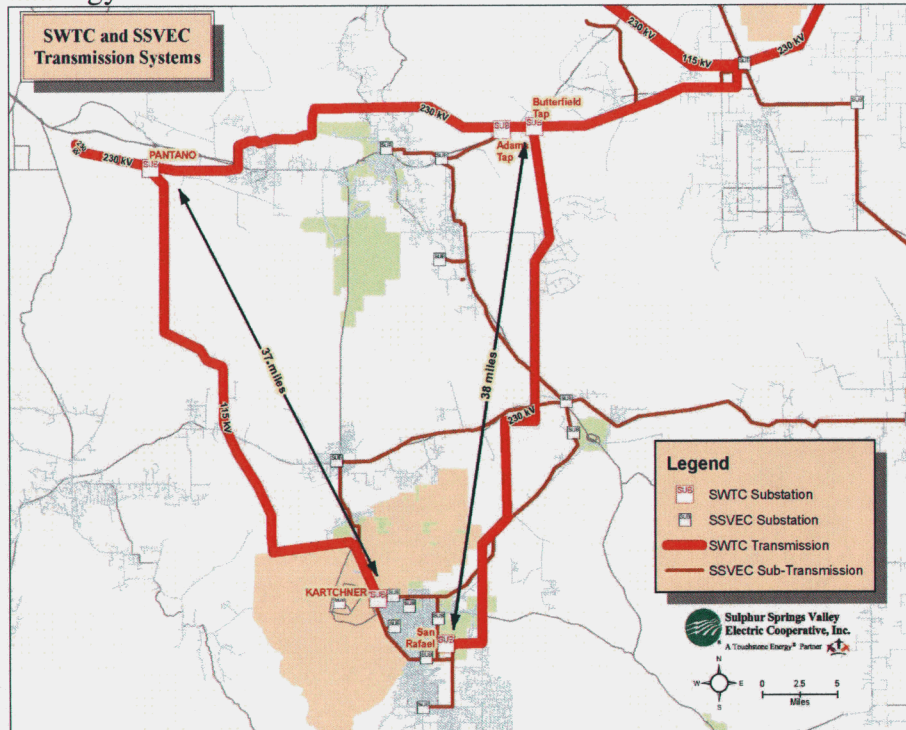


## Appendixes

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## APPENDIX A: Summary and History of SWTC's "N-1" Issue in the Sierra Vista Area

SSVEC serves much of Cochise County including the City of Sierra Vista and surrounding area. SSVEC's sole transmission supplier is SWTC, who has a 37 mile long 115kV and a 38 mile long 230kV transmission lines. Both lines are radial, ending in SWTC step-down substations. SSVEC has a 69kV subtransmission system to distribute the received energy.



**Figure 7: SWTC and SSVEC Facilities**

In 2005, due to rapid load growth, it became apparent to SWTC and SSVEC that a loss of any of SWTC's facilities [transmission, transformer, etc] serving SSVEC during peak periods would result in load having to be dropped. SWTC stated that a remedial action scheme ["RAS"], in which load is dropped during an outage, was acceptable according to WECC standards, and therefore applicable to this area. If SSVEC wanted another solution, SSVEC would have to pay 100% of the cost that SWTC would incur. SSVEC objected to this solution in numerous communications. SWTC did not accept SSVEC's objection.

SWTC's Total 2005 Revenue Paid By SSVEC				
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**Figure 8: SWTC's 2005 Revenue from  
SSVEC [sources SSVEC's SWTC  
bills and SWTC annual report]**



On behalf of SSVEC, David Bryan of SSVEC began attending regional transmission group meetings to state SSVEC's continuing issues with service in the Cochise County area. In December 2006, SWTC and TEP formed the SATS group, which would include Cochise County.

At this time, SWTC was still insisting that a RAS was still the acceptable solution. This was despite the ACC's recommendation for "continuity of service" in the first BTA, SSVEC's reminder of this recommendation in a comment letter on the fourth BTA, and SSVEC's comments and statements at the SATS meetings.

During the week of October 9, 2007, SWTC had several outages that resulted in service disruption for over 67,000 customer-hours in the Sierra Vista area. Please see Appendix B for additional details. At the next SATS meeting, October 24, 2007, SSVEC presented the group with an overview of the outages and request for action. At the urging of Prem Bahl, it was agreed that solutions other than a RAS were needed. The Cochise County Study group was formed. Please see Appendix C for additional details.



## Appendix B: Sierra Vista Newspaper Articles on SWTC's October 2007 Outages

SIERRA VISTA, ARIZONA

www.svherald.com

WEDNESDAY OCTOBER 3, 2007

# Double whammy causes SV blackout

Transmission failure, offline substation team up to create 3-hour outage

A Sierra Vista police officer directs traffic at the Highway 90 Bypass and Fry Boulevard intersection during Tuesday's power outage.

## SSVEC official: Power supplier's woe was 1st

BY LAURA ORY AND CENTRY BRASWELL  
HERALD/REVIEW

SIERRA VISTA — Electric service across much of Cochise County was down Tuesday afternoon after a parts failure shut down a local transformer.

Sierra Vista, Hereford, Palominas, Whetstone, Sonoita, Patagonia and Huachuca City were affected by the outage. Fort Huachuca was not affected by the outage because its power is provided by Tucson Electric Power Co., said Jack Blair, chief member services officer for Sulphur Springs Valley Electric Cooperative.

The Southwest Transmission Cooperative's Pantano substation west of Benson shut down from a parts failure at about 1:10 p.m., causing the Kartchner substation near Sierra Vista to also lose power, Blair said.

At the time of the outage, the other

The area affected by the power outage went from Whetstone to the Palominas area. The outage also went into parts of Santa Cruz County.

## Businesses, residents cope with the outage

BY CINDY SKALSKY AND RANA COLE  
HERALD/REVIEW

SIERRA VISTA — Sierra Vistans seemed to cope well without power during mid-day in midtown on Tuesday.

At Safeway, a generator powered the most important functions, such as keeping the automatic doors open and the cash registers humming during Sulphur Springs Valley Electric Cooperative's up to three-hour service outage.

But strolling down the aisles was dark, dark, dark.

"I know it's here, it's just hard to see it," said Jeanette Zaragoza, searching for a package of frozen French fries. "I live around the corner and thought it was just our block. I didn't know the whole town was out."

See OUTAGE, Page A11

See COPING, Page A11



## COPING: At Lowe's and the Sierra Vista Regional Health Center, power generators were put to use Tuesday

FROM PAGE A1

Billie Stock, cashed out her cart, which included a dozen containers of yogurt. "My sister comes home from the hospital tomorrow, and she has to have soft foods," said the shopper who hoped her fridge would keep them fresh overnight.

In the rear of the store, filets mignons and fresh shrimp were unavailable for purchase, because the scales weren't working.

Employees helped with flashlights, and some shoppers even brought their own.

No one manned the Starbuck's.

Across the parking lot at Supercuts, Sothiza Jantzen had locked up around 1:30 p.m.

"We lost clients," said the assistant manager of the walk-in salon. "I was afraid to start someone's hair if I couldn't finish them."

At the main post office, the front doors were open, but the only business transacted was depositing already stamped mail, or accessing a personal postal box. Inner doors to the main counter were locked, and no one answered the lobby buzzer.

**'WE LOST CLIENTS. I WAS AFRAID TO START SOMEONE'S HAIR IF I COULDN'T FINISH THEM.'**

Sothiza Jantzen  
ASSISTANT MANAGER OF SUPERCUTS  
IN SIERRA VISTA

A small woman with a large package walked in the lobby, grasped the situation and executed a smooth U-turn.

An elderly gentleman commented, "Well, we always knew the post office was in the dark."

Motorists were generally courteous and careful to treat intersections with traffic lights as a four-way stop—even if there were no cars waiting to cross or enter into traffic. Sierra Vista police officers stood at major intersections along Fry Boulevard, directing vehicles through major cross

streets, such as Coronado, Avenida Escuela and El Camino Real.

At Jiffy Lube, Mike Rooney was waiting for a call back from his district office for permission to close up shop.

"We can't service cars," said the uniformed team leader as his fellow workers looked on. "Those are employees' cars, and right now we're getting paid to do nothing. We talked to the electric company, and they couldn't say when the power would come back."

Around the corner at Lowe's, customers walked into another world.

Christmas lights twinkled, battery-powered Santas bobbed their welcomes, and holiday music drifted over the air-conditioned comfort.

"Generators. Huge generators," said sales manager Kris Hardy. "Only half the lights are on, and the AC is reduced, but it's hard to tell."

Lowe's lost power for approximately three to four minutes, but Hardy and store manager Kerney Staley cranked up the \$1.5 million

diesel machine, and customers experienced only a brief glitch.

"If they're still here, they might not know what's happening out there," Staley said.

Lowe's carries a variety of John Deere, Troy-Bilt and other generators in stock for home and business use, ranging in price from \$600 to \$1,300.

"You can run all your major appliances on this one," Staley said, pointing out an 8,000-watt gasoline powered machine. "Or we can order a 45,000-watt that runs on propane that'll keep your whole house going even in a disaster."

The Sierra Vista Regional Health Center was status quo during the outage, too.

"All of our back-up generators kicked on, and everything is up and running," said Public Relations Manager Linda Kamrowski, who had just returned from a tour of the hospital. "It's still early in the outage, but at this point it's business as usual for us."

Things weren't going quite so well just down the street at Walgreens pharmacy.

The store was dark, and its automatic doors locked tight during the outage. Customers milled around the front of the store waiting for the power to come back on so they could do some shopping and get prescriptions filled.

"I've been waiting for about 10 minutes now," said Linda Bellows, who needed to drop off a prescription. "You don't know how much you depend on power until something like this happens. I keep thinking it'll come back on any minute."

It was a similar situation across the street at CVS Pharmacy, where pharmacist Jeffrey Bae was standing in front of the building, greeting customers and taking prescriptions to fill later, once the power was back on.

"We're keeping customers out for safety reasons," he said, glancing over his shoulder at the dark building.

REPORTER Cindy Staley can be reached at 515-4611 or by e-mail at [cindy.staley@sherald.com](mailto:cindy.staley@sherald.com). Reporter Diana Cole can be reached at 515-4618 or by e-mail at [diana.cole@sherald.com](mailto:diana.cole@sherald.com).

## OUTAGE: City police officers, public works sent to help traffic

FROM PAGE A1

until about 4 p.m., when Southwest Transmission Cooperative re-energized the San Raphael substation. By Tuesday evening, the Pantano substation also was working again.

SSVEC officials will meet with Southwest Transmission Cooperative early today to find out how they can ensure the outage doesn't happen again, Blair said.

Customers, including Dan Greene, stopped by SSVEC at 311 E. Wilcox Drive shortly after the power outage to find out when they would have electricity again.

"I just bought 150 bucks worth of groceries," Greene said.

He planned to stop by a convenience store to get some ice to keep the food from spoiling.

Many SSVEC customers were upset because they received a busy signal when calling SSVEC for information on the outage, Blair said. SSVEC was operating about 10 phone lines but wasn't immediately able to

### ON THE NET

- Southwest Transmission Cooperative Inc.: [www.southwesttransmission.coop/](http://www.southwesttransmission.coop/)
- Sulphur Springs Valley Electric Cooperative: [www.ssvect.org/](http://www.ssvect.org/)

answer all of the calls they were receiving.

As the power went out Tuesday throughout the Upper San Pedro Valley, so did traffic lights in the greater urban Sierra Vista.

The Sierra Vista police started receiving calls at about 1 p.m. that electricity was interrupted at all the major traffic intersections in city limits. Cochise County Sheriff's Office dispatchers also got a flood of calls.

City officers were dispatched to control traffic, and the Public Works Department staff responded with four-way stop signs at some intersections.

The county dispatchers reported power-outage calls from as far north as Whetstone, all the way down through Hereford and unin-

corporated south Sierra Vista, Sheriff's Office spokeswoman Carol Capas said.

"And some of the issues that are now coming up include people on oxygen, running low, so we're getting medical calls for that," she said at about 3 p.m.

County deputies were dispatched to direct traffic at the intersections out of town.

Sierra Vista police Sgt. Daryl Copp said power to all city traffic signals was restored by about 4 p.m., though there continued to be temporary outages in some areas after that time.

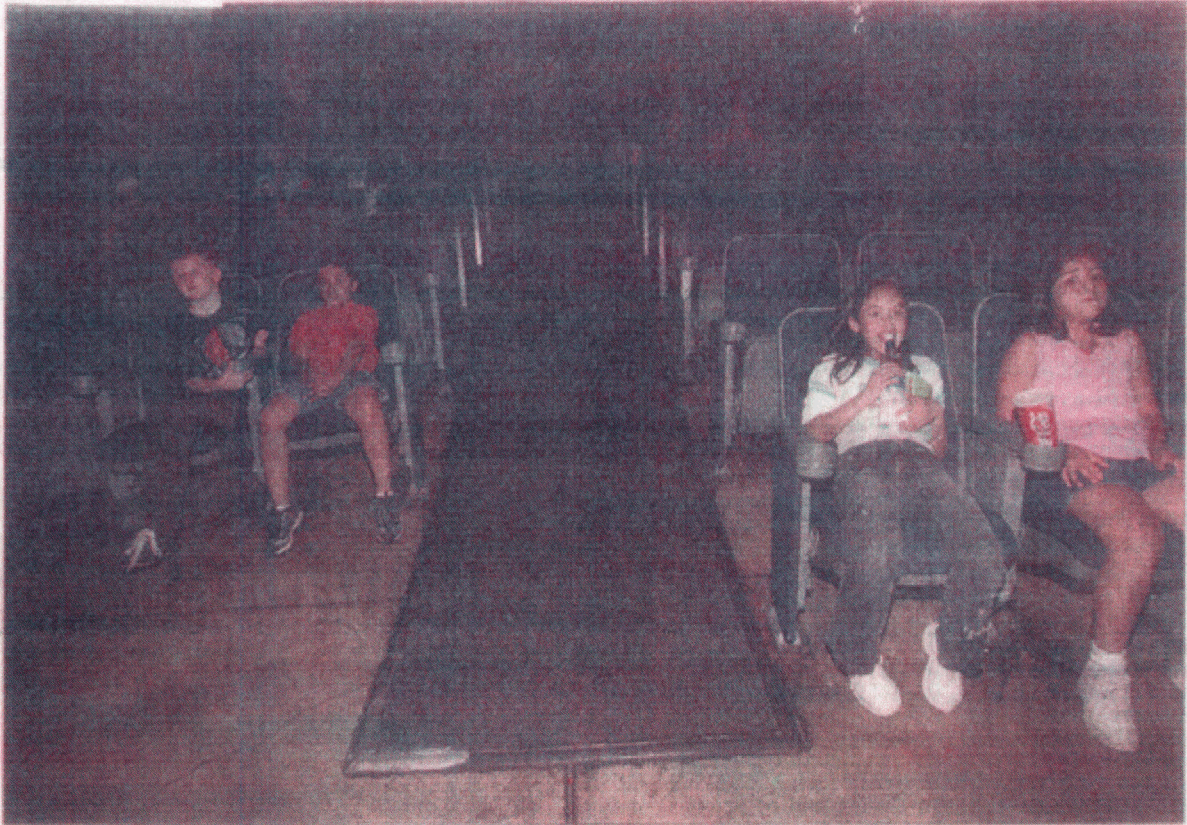
During the outage, city police responded to three wrecks. Police remind motorists that when driving up to a non-functioning traffic light, it should be treated like a four-way stop.

HERALD/REVIEW reporter Laura Ory can be reached at 515-4683 or by e-mail at [laura.ory@sherald.com](mailto:laura.ory@sherald.com). Herald/Review reporter Gentry Braswell can be reached at 515-4680 or by e-mail at [gentry.braswell@sherald.com](mailto:gentry.braswell@sherald.com).



THURSDAY, OCTOBER 11, 2007

## SAME PROBLEM, DIFFERENT DAY



MARK LEVY/HERALD REVIEW

The lights are out and so is the movie at the Uptown 3 Theater during Wednesday's power outage. From left, Seth Humeston, 6, Erick Estrada, 8, Dulce Estrada, 10 and Anastacia Frizell, 10, wait in hope that the movie they were watching will resume. Theater owner Valerie Schmalian says the outage hurt theater business more on Wednesday than it did on Tuesday. Schmalian had to give out about 50 passes for each day of the power outages.

# It's lights out again in Sierra Vista

BY KEITH J. ALLEN AND GENTRY BRASWELL  
HERALD REVIEW

SIERRA VISTA — For a second day, the Sierra Vista area experienced a power outage.

And for a second day, residents and businesses were left dealing with the blackouts — including a woman who was stuck in an elevator that may have shut down because of the lack of power.

"We regret it," said Jack Blair, chief member services officer for Sulphur Springs Valley Electric Cooperative, after the power had been restored on Wednesday afternoon. "We're just as frustrated as other people."

The frustration came because it was the second day an outage had occurred.

## City experiences its second power outage in two days

And the frustration mounted in that it was a similar problem to what caused Tuesday's outage.

Blair said the organization that transmits power to SSVEC, Southwest Transmission Cooperative Inc., had an improper setting on a relay on a transformer — which allows power to pass through from one system to another — at the Kartchner substation near Sierra Vista. An improper setting at the Pantano substation west of Benson was to blame for Tuesday's power outage.

"Human error" was behind the outages, Blair said.

That was compounded by the fact the San Rafael substation in the Sierra Vista was down for repairs on Wednesday, just as it had been on Tuesday.

All of the substations are run by Southwest Transmission Cooperative.

Wednesday's blackout began about 2 p.m. Power started coming back for some customers by 3 p.m., and the entire system was running at the same level by 4 p.m., Blair said. "Critical elements," such as Sierra Vista Regional Health Center and the Sierra Vista Police Department, were up and running first.

"Virtually the same area" as Tuesday was affected on Wednesday, Blair said. That area included Sierra Vista.

See POWER, Page A7



## **POWER:** *Woman was rescued after being stuck in elevator during the outage*

FROM PAGE A1

Whetstone, Huachuca City, Hereford, Palomina, Sonora and Patagonia.

After being assured Wednesday morning by Southwest Transmission Cooperative that all was back to normal with the system, SSVEC prepared just in case another blackout occurred, Blair said. That work, he said, helped limit the impact of Wednesday's outage.

Repairs at the San Rafael substation have been stopped until SSVEC is satisfied the problems at the other Southwest Transmission Cooperative substations have been fixed, Blair said.

That doesn't help the hundreds of frustrated people who again called into SSVEC, many getting a busy signal because of the number of calls. And there were incidents during Wednesday's power outage.

Sierra Vista firefighters came to the aid of a woman stuck in the elevator at the Wick Building, 333 W. Wilcox Drive. "We have an elevator key that we used to open the door," said paramedic Terry Cox.

Firefighters went up to the third floor of the building, used the elevator key, manipulated the latch on the secondary door of the elevator and lent a hand to the stranded woman. "She was standing there with a big smile on her face and she said 'hello,'" Cox said. She called for help using her cell phone because the elevator phone was out, possibly because of the power outage.

Ironically, though the cause is not thought to be related to the power out-

age, a non-injury, single-vehicle wreck occurred when a pickup drove over a curb into the landscaping cactuses outside SSVEC Co-op's main Sierra Vista office, 311 E. Wilcox Drive.

Sierra Vista police Sgt. Daryl Copp said it was only a property damage incident, as there were no injuries.

About 15 minutes after the power went off, a wreck happened at the intersection of Buffalo Soldier Trail and the Highway 90 Bypass.

Arizona Department of Public Safety spokeswoman Joy Craig said it amounted to only a property damage crash as well. There were no injuries.

Cochise County Sheriff's Office and city emergency dispatchers responded as they had done Tuesday, sending police to direct traffic at major intersections

## **ON THE NET**

• Southwest Transmission Cooperative Inc.: [www.southwest-transmission.coop/](http://www.southwest-transmission.coop/)

• Sulphur Springs Valley Electric Cooperative Inc.: [www.ssvvec.org/](http://www.ssvvec.org/)

and holding other calls until the situation was remedied.

The outage Wednesday happened close to the time of a shift change for the Sierra Vista police, so the department was able to make use of that extra personnel as needed, Copp said.

Arizona Rangers were dispatched to work traffic, and plain-clothed officers could be seen at some intersections.

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# SV mall emergency plan proves effective during power outage

BY BILL HESS  
HERALD/REVIEW

SIERRA VISTA — The great baseball language-mangler Yogi Berra reportedly once said, "It's déjà vu all over again."

And Wednesday, people in the Sierra Vista area probably agreed with the legendary New York Yankee catcher as electric service failed for the second day in a row.

Benjamin McCorkle, the operations manager for The Mall at Sierra Vista, is one of those in agreement.

Although Wednesday's outage was shorter than Tuesday, McCorkle said the mall's emergency plan worked both days, as previous practices indicated would be the case.

Wednesday's outage at the mall lasted a little more than an hour, whereas Tuesday's was a little more than three hours.

The mall has an emergency backup generator that automatically starts, he said. The system is not designed to provide power for all the tenants so they can remain open, but it does create some lighting within the building's common areas, including restrooms and the main corridor.

While the lighting is minimal, it provides for

customer safety, McCorkle said.

Most of the tenants temporarily shuttered their businesses, except for Dillard's, which has its own backup generator, McCorkle said.

Scott Van Nierop, Dillard's store manager, said every one of the company's facilities has its own generator capacity for such emergencies.

While the backup source is not enough to operate all the systems within the store, it provides enough power to operate some lights, a few cash registers and other equipment.

The key is to ensure customer and employee safety, and that was accomplished without closing, Van Nierop said. In any future power outage, "the store will still function," he said.

As the only store open Tuesday during the outage, many customers came to the business.

McCorkle said the object of the mall's emergency plan, which not only addresses power outages, but fires or any other problem, is to ensure customer safety.

Passing on current information is part of the mall's response plan, and the operations manager said he was kept informed of any status changes by the mall's Sul-

phur Springs Valley Electric Cooperative customer representative.

After Tuesday's outage, Sears closed its operations, he said.

The mall also has been a place for students and staff members from the Sierra Vista public schools to go during fall break, which is this week.

"We've noticed a lot of younger traffic in the mall this week," McCorkle said.

On Tuesday, many customers remained in the mall, enjoying a meal during the power outage, with some food court employees serving still hot food off their lines. Later the food was put into the refrigerators or discarded, McCorkle said.

The Cochise County Health Department also checked the situation and said the food vendors had complied with requirements when it came to handling edibles.

Fortunately for most businesses, the outages happened in the mid-week, meaning although the tenants were impacted it was limited by the short time the power was off both days.

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## Appendix C: Sierra Vista Herald Newspaper Blog

Some of the blogs listed the Sierra Vista Herald's website in response to the articles on the October outages. A complete list is available via the website.

FOur Days! wrote on Oct 12, 2007 10:14 PM:

" Four days SSVEC. Enough! "

Angry wrote on Oct 12, 2007 10:13 PM:

" When is SSVEC going to take responsibility and stop making excuses? Stop blaming these outages on someone else! Get rid of the person or fire the manager he reports to. NO MORE power outages! "

customer wrote on Oct 12, 2007 10:11 PM:

" What's up SSVEC? Four days? I really think SSVEC management needs to solve this or be terminated! "

Upset wrote on Oct 12, 2007 10:16 PM:

" I am concerned that there is nothing being done to correct the problems at SSVEC. Everyday for four days I have had outages. I want to know what SSVEC management is doing about this. Why is this still happening? Maybe the upper management needs to solve this or resign and let someone who does know how to handle it, come on board. " Twice today the power has been out. Is that how incompetent SSVEC and Jack Blair are that they can't take care of these problems? All our frozen foods have thawed out and melted because of them. Maybe we need to get rid of Jack Blair. Even if you call SSVEC, they don't answer the phone.

*EDITOR'S NOTE: SSVEC, as we've reported, wasn't having the problem, but the cooperative delivering power to it, Southwest Transmission Cooperative Inc., did. Jack Blair is the chief marketing officer for the cooperative, so he acts as a spokesman for the organization.*

hey wrote on Oct 11, 2007 5:54 PM:

" that kid is probably flipping the bird at the man takin the picture. i would be cause i rather see a movie then wait for the power to come back on. i was at work washing dishes i lost some money at work cause of this they sent me home. u gonna pay my electric for next month i doubht it "

Timothy wrote on Oct 13, 2007 8:02 AM:

" I would like to know when someone is going to start doing something to assure that these outages stop. Three outages in a week seems to be too frequent for normal operations in an area this size. Where is all the money collected going? When is SSVEC going to address the needs of its customers? " Since the electricity went out today throughout SSVEC (Sulphur Springs Valley Electric Cooperative) we again showed Sierra Vista that we have no emergency service throughout the entire county. We couldn't hear any broadcasts, all streetlights were out,



and all radio stations were out so you couldn't find out what was happening. It brought Cochise County to a complete standstill with no emergency backup and no thought for the customer.

Sierra Vista had a power outage today. Cox Cable was also out. After the power was restored, my cable service was still not working. I drove to the local Cox Cable office in Sierra Vista. It was closed. There was a sign on the door that said, "Due to power outage, we're closed." While I sat in my car, three or four other customers arrived and found the door locked. When their customers need help, they close the office and go home. You'd think after the power outage on Tuesday they'd have enough brains to fix it so that it didn't go off again Wednesday.

Kerry wrote on Oct 11, 2007 4:28 PM:

" well, since it's human error, you are responsible for class action suit. Count me in, you cost me 3hours of work. "

Wayne wrote on Oct 11, 2007 2:49 PM:

" I glade to see that all of these people or at least most of them have never made a mistake!!!!!! SSVEC there de-regulated partner AEPCO and Southwest Transmission Cooperative Inc., provide 99% perfect service. I only wish I was that good. "

SSVEC customer wrote on Oct 12, 2007 10:10 PM:

" I am getting tired of this. SSVEC needs to solve their problems. I am losing all faith in them. Four days!!!! Solve this, and no more black outs. One more and I am going to demand someone be fired!!! "

Upset customer wrote on Oct 12, 2007 10:08 PM:

" I cannot believe this! Four days in a row. Is no one as outraged as I am? SSVEC needs to solve this! Someone needs to be fired. I think we start with management at SSVEC! "

A concerned business owner wrote on Oct 12, 2007 10:05 PM:

" What is going on? I've lost thousands of dollars in the last four days. If SSVEC cannot get a handle on this, then someone needs to be fired. I suggest the CEO and managers of SSVEC. Isn't he responsible for everything? Either that or he starts paying me the money I've lost!!!! "

Curious wrote on Oct 12, 2007 6:53 PM:

" If I was SSVEC I would cancel my contract with that other power company that keeps causing the problems. 3 times in four days. "

azdave wrote on Oct 11, 2007 10:14 AM:

" SWTC is an electrical cooperative that owns and operates generating and transmission facilities for parts of Arizona. SSVEC is only one of the six primary owner/customers of SWTC. I listened to the SSVEC field operations people on my scanner during both power outages and I was very impressed with their competency and effort. Somebody at SWTC messed up the power distribution settings (some kind of load imbalance) that caused the relays to trip on both days, not someone from SSVEC. "

SSVEC supporter wrote on Oct 11, 2007 10:10 AM:

" I see that this is a problem from the company that sends power to SSVEC Im glad they didn't rely on them again and instead used their own system. SSVEC has always been a good electric company and I think they still are "

desert mom wrote on Oct 11, 2007 5:54 AM:

" When is this going to stop?!! This is difficult for my family and I, especially since we have an extra freezer and we depend on our freezers for a lot of our groceries. I would think that SSVEC would give all of us customers some credit on our bills, due to these constant outages!!! "



## Appendix D: SSVEC's Letter to Its Customers



**Sulphur Springs Valley Electric Cooperative, Inc.**

A Touchstone Energy® Cooperative

|||||

DAVID BRYAN  
685 S FOOTHILL DR  
BENSON, AZ 85602-6815

50 / 18458

I sincerely regret the inconvenience that the recent power outages in the Sierra Vista, Hereford, Palominas, Huachuca City, Whetstone, Sonoita and Patagonia areas caused for our valued members. We here at SSVEC pride ourselves in providing reliable service to our customers and I want to assure you that we take your concerns and comments seriously. Therefore, I wish to explain the major power failures that occurred on October 9th, 10th, and 12th and reassure you that although SSVEC was not to blame, and our employees worked quickly and safely to bring electricity to your home or business, I understand your frustration and offer my apologies.

Our power is generated by Arizona Electric Power Cooperative (AEP) at the Apache Generating Station which is located near Cochise, Arizona. The power produced by AEP is then transmitted to the SSVEC electrical grid through Southwest Transmission Cooperative (SWTC) which is headquartered in Benson, Arizona. SSVEC in turn distributes the electricity to our homes and businesses. In short, there are three companies responsible for the power that our members use.

When the electricity went out on Tuesday, October 9th at approximately 1:10 p.m., Sierra Vista and the surrounding areas were being supplied with power from only one substation (Kartchner), as Southwest Transmission Cooperative (SWTC), who transmits our power, was installing fiber optic cable on the line that runs from their Butterfield Substation to their San Rafael Substation in Sierra Vista. After a relay was tripped at the SWTC Pantano Substation, near Tucson (the relay switch was improperly set by SWTC personnel) it caused the transformer to shut off and the result was a wide loss of power. SSVEC crews worked diligently to re-establish electricity as quickly as possible and by 4:00 p.m. most SSVEC members' power was restored.

On Wednesday, October 10th, SSVEC management met with officials at SWTC to review the outage and to review contingency plans. At this meeting, SSVEC was assured the outage was a "fluke" and the work on the fiber optics and the substation would continue, over objections from SSVEC.

At 2:20 p.m. on Wednesday October 10th, as SWTC Kartchner Substation line relays opened, power was again lost as a relay had again been improperly set by a SWTC employee. Once again, SSVEC crews went to work immediately and were able to restore some power within 20 minutes while the majority of consumers were brought back online by 3:43 p.m.

At the insistence of SSVEC, SWTC halted further work at the San Rafael Substation and line until a full inspection was complete. During the testing on October 12th a SWTC employee caused the Kartchner breaker to open resulting in an outage of approximately one minute. After further testing, SWTC feels that all the problems have been resolved and they have begun their work again.

Again, I apologize for these outages but be assured these were not due to mistakes or incompetence on the part of SSVEC. We ask for your continued loyalty as we continue to serve the growing needs of Sierra Vista and the surrounding areas through improved technology and equipment and dedicated customer service.

*Creden W. Huber*

Creden W. Huber  
Chief Executive Officer  
Sulphur Springs Valley Electric Cooperative

## **Appendix E: Formation of Cochise County Study Group**

From the SATS meeting of October 24, 2007

### **6) Cochise County Area Planning**

*Incident/Situation Assessment. David began by stating that SSVEC wanted to discuss the outages that had recently occurred on their system and asked what reliability criteria is being used for the area. He expressed a concern about the WECC criteria. Was the WECC allowance under N-1-1 outage conditions that radially served load, no matter how large, can go dark due to transmission outages acceptable? Or should the criteria be "N-1" particularly for southern Cochise County? Southern Cochise County is served by transmission entities SWTC, TEP, and APS and has a population of approximately 70,000 people.*

*Ron Orozco discussed the outages. A map of the SSVEC system was shown to the group and Ron pointed to the Pantano Substation, which is owned by SWTC, and which has a 100 MVA transformer that feeds a 34-mile 115 kV line to Kartchner Substation. Kartchner Substation has a 100 MVA 115/69 kV transformer. The loads at peak on the Sierra Vista system is about 107 MW. The peak load today is around 70 MW.*

*Ron pointed out the Butterfield to San Rafael 230 kV line, which feeds a 100 MVA 230/69 kV transformer at San Rafael. SSVEC uses a 69 kV transmission system to serve the load in Sierra Vista. SSVEC is contemplating tying their 69 kV to Ft. Huachuca and to APS. David further pointed out that backup capability to APS is currently being provided by SSVEC's 69 kV system and that in the near future, another emergency/maintenance 69 kV tie with APS would be implemented. SSVEC has been working closely with the Fort Huachuca Military Base and plans are already underway with the 69 kV tie to Fort Huachuca which will use the SSVEC 69 kV system as backup.*

*TEP has a 138 kV line and a 46 kV line that provide service to Ft. Huachuca. Prem asked how SSVEC could provide 20 MW of backup to the Fort? Ron Orozco explained that there is a combined 200 MVA capability that exists at Kartchner and San Rafael, which is sufficient to handle the backup at this time.*

*On October 9<sup>th</sup>, the Butterfield to San Rafael 230 kV line was out of service for installation of an Optical Guy Wire (OPGW) and at the same time, maintenance was being done on the 230/69 kV transformer at San Rafael. 67-70 MW of load was being pulled through the Pantano transformer which tripped off line due to a faulty CT ratio. SSVEC tried to pick up the load through their 69 kV system. They could only pick up about 38 MW before their system tripped. It took SWTC and SSVEC crews 3 hours to get the system back up. 38 MW of load was all that*

*was able to be served until San Rafael came back on line. SWTC crews fixed the faulty CT ratio.*

*On October 10<sup>th</sup>, the Butterfield to San Rafael 230 kV line was again out for service and at the 67-70 MW load level, the Kartchner transformer tripped off line and Sierra Vista was again in the dark. The relays at Kartchner were set for a 50 MVA transformer instead of a 100 MVA transformer, which had just recently been installed.*

*On October 11<sup>th</sup>, SWTC crews were at Kartchner Substation testing relays and didn't follow correct procedures, which caused another trip of the system. However, this outage did not last as long as those on the two previous days. In addition, on October 17<sup>th</sup>, the system was operating in an alternative configuration at Redtail Substation. SWTC crews were working late at night and were getting ready to download the new relay settings, but ended up uploading the old settings instead, which put a "not" command back into the mirror bit, causing a trip of Redtail.*

*The outages in Sierra Vista were complicated by the Westwing fire. There were crews installing OPGW on the Apache to Butterfield 230 kV line but were pulled off to get the line back in service to help TEP. Once Apache to Butterfield was placed back into service they then began work on installing OPGW on the Butterfield to San Rafael 230 kV line.*

*David stated that SWTC has given a marvelous response to SSVEC to ensure that this doesn't happen again. He noted that he will get a pdf file of the map of the Sierra Vista area to Bruce so it can be forwarded to the group.*

*David also noted that the problems experienced by SSVEC with these outages points out that the entire area is weak for all entities within the area. There is a lot of concentration on the Phoenix to Tucson area and more emphasis is needed in Cochise County, which is a part of SATS. We need to follow the WECC requirements and not shed load.*

*Prem stated that the new NERC requirements (TPL-000-1) require that there be no load shedding under outage conditions. As noted earlier, the first draft of the revised standard would no longer recognize controlled load shed for N-1-1 or N-2 contingencies on lines 300kV and above. Load shed would be allowed under the first draft of the proposed new standard for contingencies on 230kV and 115kV.*

*David replied that the outages are being resolved but we need to resolve the problems in this area. SWTC has done studies to show that capacitors are a short term fix until transmission can be built. David stated that the three different entities in the area are in weak shape.*



*Ron Orozco stated that the long range plan is to upgrade Pantano to Kartchner to 230 kV and tie Kartchner to San Rafael with 230 kV.*

*Mike Flores asked if an outage report was filed with WECC? SWTC was not aware of any that had been filed with WECC. Mike replied that it is more for the benefit of Transmission Operators. He stated that DOE also has requirements for certain Megawatt hours that are out. Bruce stated that he would take this on as an action item and find out if SWTC filed an incident report with WECC and/or DOE.*

*Short-Term Solution Proposals. Ron Belval suggested that a subgroup be formed to explore options for service to Cochise County – the participants being APS, TEP, SSVEC and SWTC.*

*Ken stated that the WECC standards are a minimum and we can and should set something higher. He asked if the WECC standards applied to radial lines? He stated further that under an N-1 condition, three different entities will go black. What is appropriate to discuss in SATS is what standards will be used in planning for this area. We talk about plans for the future, but we should be planning for the short term. We can't rely on WECC minimum standards, so can we set a higher bar? Prem replied that it is not a higher bar, but a necessity.*

*Ron Orozco stated that he sees two options. One is adopting a higher standard for the whole SATS area, or adopting a higher standard for specific areas. Ron Belval replied that this is a localized issue but should be addressed. Cost-effective solutions will need to be developed to effectively deal with the problem.*

*Jim Charters asked if we want to consider this as a BTA issue? David replied that it is already a BTA issue, because SWTC has been ordered to come up with a solution for this in its 10 Year Plan filing to the ACC in January.*

*EvaMarie gave a presentation on the study efforts that are ongoing between SSVEC and SWTC. A 2016 case was used, with a 245.5 MW load for SSVEC, which is about 8 MW higher than the SSVEC projection.*

*The 69 kV system is operated in an open configuration by SSVEC. The 69 kV lines in SSVEC's system are all at various sizes. Some are 3/0 ACSR, some are 4/0 ACSR, some are 336 ACSR, and some are 795 ACSR. SSVEC has discussed with SWTC their plans to upgrade some of their lines to 795 ACSR and have stated that all new construction of 69 kV lines will be 795 ACSR.*

*To date, SWTC has studied the following options for SSVEC:*

*Sloan 230 kV injection  
Pantano/Kartchner 230 kV line  
Bicknell/Kartchner 230 kV line*

*Sloan/Huachuca 230 kV line  
Apache/Kansas Settlement 230 kV line  
Apache/Cochise 230 kV line  
San Rafael/Kartchner 230 kV line  
Upgrading entire SSVEC 69 kV system  
Cap Bank locations and sizes*

*In the various joint planning meetings between SWTC and SSVEC, SSVEC has identified projects that they would be interested in pursuing. These are:*

*Upgrading some 69 kV lines  
Apache to Benson  
Benson to Sierra Vista  
Sierra Vista to Webb  
Benson to Webb*

*Complete Reconfiguration of SSVEC system  
Distributed Generation (DG)  
St. David  
Cottonwood  
Sloan  
Ft. Huachuca*

*230 kV injections (new line construction)  
Pantano to Kartchner  
Kartchner to San Rafael  
Sloan to Huachuca*

*Emergency Back-up  
TEP Intertie  
2016 case includes emergency ties with APS at McNeal/San Pedro and  
Hereford/Palominas*

*The results so far show:*

*SSVEC/SWTC must do some improvements to serve load under the  
Butterfield/San Rafael 230 kV line outage for the 2016 year time frame.  
Additional details are currently being worked out.  
Upgrades of the SSVEC 69 kV system will significantly help in reducing the  
number of overloaded lines during certain outages but will not support the loads  
without another injection point.  
Distributed generation will help but does not fully support loads considering  
SSVEC's system configuration  
TEP emergency tie helps if the SSVEC system is fully closed  
Capacitor banks will need to be placed within SSVEC's system*



*Jim Charters asked if the use of advanced conductor technology had been considered as a potential solution to the upgrades of the transmission system in the area. David replied that it had.*

*Prem asked if it is possible to speed up the construction of the 230 kV loop? Ron Orozco stated that he would like to see the 1<sup>st</sup> portion done, which is the 230 kV loop from Pantano to San Rafael and then do the next 230 kV injection. Ray noted that SWTC is doing the ROW now for the upgrade of the Pantano to Kartchner 115 kV to 230 kV, through a Preliminary Survey. The only thing left to finish up these studies is to develop the costs for all of the alternatives.*

*Ron Belval asked how this all should be coordinated. Ron Orozco replied that SSVEC will get together with SWTC and get this into the SATS process. They will also work with APS and TEP. Ron Belval suggested that SWTC and SSVEC develop all alternatives and then get with APS and TEP to discuss the alternatives – with anyone else in SATS attending the meetings if they are interested.*

*Prem reminded the group that this is a huge political issue; one that is very serious and needs to be dealt with ASAP. It has been in the news and the ACC Commissioners are aware of it. All parties need to get together ASAP, and come up with reliable and economic solutions. He stated that he will recommend to the ACC full recovery of the costs of transmission additions. He suggested that efforts be made to get this work done sooner than later.*

*Ron Belval stated that a target date of December 1<sup>st</sup> should be set for final solutions for Cochise County so that it can be included in the SATS report.*

*Ron Orozco asked who would be involved from the utilities:*

*APS – Peter Krzykos and Stan Sierra*

*ACC – Prem Bahl*

*Ft. Huachuca – Bill Stein*

*TEP – Ron Belval*

*SWTC – Ray Som, EvaMarie King, Bruce Evans, Jim Rein*

*David Bryan was asked to set up a meeting with the participants as soon as possible as an action item.*